

AMIGA GUIDE

JANUARY 1994

**GOT ONE OF THESE?
THEN READ THIS MAG!**

**GETTING TO GRIPS WITH
YOUR NEW AMIGA - ALL
YOU NEED TO KNOW!**

**AMIGA HELPLINE
WHAT TO DO
WHEN THINGS
GO WRONG!**



**EXPLORING THE
AMIGA'S
WORKBENCH**

**HINTS AND TIPS FOR
DELUXE PAINT IV AND
WORDWORTH 2**

FREE!

WITH CU AMIGA

**INSIDE: VITAL INFORMATION FOR ALL
NEW AMIGA OWNERS!
DON'T MISS OUT**

If you found an Amiga lurking at the bottom of your Christmas stocking, then you're now one of the elite - you're an Amiga user. Jason Holborn introduces you to the most popular home micro ever.

INTRODUCING CU AMIGA...

Now that you're an Amiga owner, we'd like to take this opportunity to not only congratulate you on buying the best computer in the business, but also for buying the best Amiga magazine in the business. Every month we deliver the hottest and most up-to-date Amiga news from around the world, reviews of the most exciting new Amiga games, custom software and hardware, plus a healthy sprinkling of features that show you how to get the very best from a whole range of Amiga applications. Whether you use your Amiga for entertainment, business, music or graphics, you'll always find something of interest within the pages of CU Amiga. Don't forget our *columns* either - every month you'll find them crammed full of useful utilities and great games.

We don't automatically assume that all our readers are total tech-heads either, so you'll never get bogged down in meaningless jargon. All our writers know what it's like to be a beginner, so all the articles you'll find in CU Amiga have been written using a language that is rarely found in computer magazines - plain English. Stick with us and enjoy the ride!

SILICON WIZARDRY

If you were lucky enough to find an Amiga under the mistletoe and after three stockings, then Santa has indeed been very kind to you. You're now the great winner of what is perhaps the most successful home computer ever devised to man - you'll find Amiga running comfortably on the desks, tables and cupboards of millions of homes and offices around the world. In the UK alone, there are hundreds of thousands of people that have been wise enough to make the same choice as yourself. With your purchase of a brand spanking new Amiga, you've now become a member of the "Mafia" of home computer owners!

It's easy to see why the Amiga has become such a phenomenal success. No other home computer on the market combines such ease of use, power and desired right price value for money in such a compact package. While other home computer owners have paid out obscene amounts of cash for machines that are really nothing more than cramped up calculators, the Amiga is a market leader in just about everything it does. Whether you want to use your new machine to explore the possibilities of "serious" home computing or you just want to have a blast with the latest Amiga games, you'll find the Amiga the home of some of the best software in the business.

Playing games on your Amiga is a certainly valid way of enjoying the power of your polyprocessor,

but the aim of this guide is to make you gently through the possibilities that your Amiga presents. We're not going to bore you with in-depth guides that cover subjects that you probably don't even own - the whole CU Amiga equipment is concentrated entirely on the software and hardware that you found in your Amiga's box.

We'll show you what all the connectors at the back of your Amiga do, how to use the Amiga's "System" disk and how to get the most from the free software bundled with your machine. Back with us over the next 20 pages or so and you'll know enough to master your Amiga in no time whatsoever!

HIDDEN POWER

So what makes the Amiga so special? Well, to the untrained eye, home computers are all pretty much the same, but look below the surface at the "hardware" contained within your Amiga's casing and you'll find a machine that distinguishes some of the most advanced computer hardware ever to grace a home computer. The secret to the Amiga's power lies in its ultra-fast Motorola central processor; a 68000 in the CD32 and A1 286, and a 68010 (the A5000 40) and - more importantly - its custom chips. The Amiga's processor is best thought of as the machine's "brain" and what a brain it is too - capable of performing over 30 million operations per second, the Amiga easily runs rings around most of the competition.

If the ultra-fast processor wasn't enough, the Amiga's power is boosted still further by three custom-designed chips that take the strain off the processor. Each of these chips is responsible for a particular aspect of the Amiga's graphics and sound. Two of the chips, Lisa and Alice (great names eh?), handle the Amiga's impressive graphics; in turn, both chips have special circuitry built into them that lets visually custom chips in their own right - Mike, for example, custom the Amiga's infamous "Blitter" and Lisa custom the "Copper" which gives the Amiga the ability to split the screen into different regions, each with its own resolution and colour palette. The last major custom chip, Paula, is responsible for the Amiga's impressive sound capabilities. Thanks to Paula, the Amiga is capable of playing "sampled" sounds and the dedicated sound sampling device used by professional musicians. All three custom chips are seamlessly integrated to form the machine we know and love.

The Amiga's power doesn't stop at its hardware, however - all these custom chips are brought into line by an operating system that is still one of the most powerful in the business. Even if these days of 486 PCs, 386-based Pentiums and Macintoshes, the Amiga's operating system is still the only one to offer true multitasking. That is, the ability to run more than one program simultaneously. (It's this explanation of the Amiga that's already allowed your appetite for more, then read on and find out how you can get the best from all the silicon wizardry...



Even in these days of powerful Pentium and PA6, the Amiga's operating system is still the only one to offer true multitasking.

CONTENTS

4 CONNECTING IT UP

Getting your Amiga up and running is a little more complicated than setting up a PC. We show you how to get started.

6 SYSTEMS DISKS

Wondering what to do with the system disks you found in the bottom of your Amiga box? Well, we'll put you in the light and let you know what to do with them.

10 WORKBENCH

You don't need to be a genius to find your way about the Amiga. If you can enter symbols, that's all you need to know to find your way around Workbench.

14 PREFERENCES

Feel up with something in Workbench? Then you can change it with the Preferences system.

17 AMIGADO!

What is AmigaDOS? And how does it work? We explain the basics for you.

20 WRITING AND PAINTING

Check out Desktop Icons and Windows 3.0, two of the software packages bundled with your Amiga.

34 EXPANDING YOUR AMIGA

The base Amiga 500 is really cleverly designed. But you can increase its capabilities with a range of low-cost add-ons.

38 AMIGA HELPFILE

Anything about the Amiga still puzzling you? Then the selection of the most common problems with the Amiga will put you on the right track.



CONTENTS

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Palette Preferences

CONNECTING IT UP

Connecting an Amiga is designed to be as simple as a three-step process. But the packaging that contains your Amiga must certainly not. Once you've peered at the remnants of the very useful Santa Claus wrapping paper that your personalizing etc. (delete as applicable) decided would meet in your shiny new machine, it's time to open up the lid and experience the delights that lie within. Unpacking and setting up the Amiga is a bit awkward task, but it's still easier to take your Amiga out of the very padded nest of the same sweet jigs and pieces that you'll find lurking in the bottom of the box. Bruce Willis may be able to outbalance dropped onto a concrete floor, but Amiga isn't so lucky!

The first (and obvious) thing to do is to open up the Amiga's box and if the excitement hasn't already got to you, carefully remove each item and place it neatly in front of you. Once you're totally sure that there's nothing left in the box, pick up all the polystyrene packing. When it looks like that box and starts to fit in a safe place so that if the unfortunate does happen (oh, you've got a dead Amiga), you can set it back in the shop that looks just like your Amiga that has the star. If everything went according to plan, you should have the following items waiting at you from your living room floor:

TROUBLE SHOOTING

When I turn on the Amiga, nothing happens - the power light doesn't even come on!

This could be caused by a number of things. The first thing to do is to check to make sure that the power supply is connected to the back of the Amiga and that the other end of the power supply is plugged into a wall socket. Once you've done this, check to make sure that both the switch on the wall socket is turned on and the switch on the power supply (which is turned on as well if your Amiga still doesn't work), by flipping the top of the plug. If it doesn't work after making all these checks, then chances are your Amiga is dead. Take it back to the shop where you bought it.

I've connected my Amiga up to my television, but there's no picture!

If the Amiga's power light is on then check to make sure that the aerial lead supplied with your machine is connected between the Amiga's RF Modulator (output) and the aerial input on your TV. If this still doesn't work, check to make sure that the TV is tuned correctly.

I've got a picture on my TV screen, but no sound!

The first thing to check is the volume control on your TV. It's turned up so that you can at least hear a normal TV program! Finding that, there you need a pair of speakers that can really produce sound! If not, then look up a game and you should hear some music when the game's title screen has appeared. If it still fails, have another go at setting the TV into your Amiga - sometimes it is possible to lose the sound output if the TV is not tuned in correctly.

The plugged in my mouse but the mouse pointer doesn't move!

First of all, check to make sure that the mouse is plugged into the correct port on the back of your Amiga. There are two ports that look exactly the same, one of which is designed for a joystick. A mouse, however, should be plugged into the port labelled "MOUSE". If this doesn't remedy the problem, then check to make sure that you've removed the little cap of them made your mouse

Getting an Amiga A1200 up and running is a little more involved than just fitting a plug to the power lead. We take you through that first all-important first stage...

AN AMIGA

before that point where you should find that things aren't! Only Commodore of the computer world, an Amiga A1200 (that is unless you bought an Amiga 4000/500, of course). This is the last time that cost too much money, so treat it with the same love and affection that you'd treat only Commodore itself. The pillow talk may not be as good for you as I'm sure, but the Amiga is just as easy to sit on as any other top.

A POWER SUPPLY

Most humans are pretty useless without a good breakfast inside them and the Amiga needs to eat lots of food too in the form of a good quality supply of volts provided by your local power station. In order for your Amiga to get its supply of electricity, Commodore should have kindly supplied a rather large (and heavy) brick-shaped object with a lead plugged from either end of it. One end should have a square shaped other connector on it and the other end should have a standard 3-way plug in it. If you aren't lucky enough to have a power supply that comes equipped to go with your mouse (and you will if it's a plug in it).

A MOUSE

Yes, Commodore haven't provided your Amiga with a pet - this mouse is a beautifully sculptured little cream coloured device that has a long lead trailing from it that connects to the Amiga. If you've never used a mouse before (and we believe that doesn't), then don't worry - we'll be taking a look at the mouse in the next section. For the moment, however, turn your mouse over onto its back and you should see a little arrow on a thin piece of the label C on the mouse's casing. Press down on the thin plastic pad and turn the dial until the arrow points to the letter O. The dial should then reset itself and you can then remove the little bit of foam padding that keeps your mouse's roller ball in place during transit. Once this is done, with the dial still in a lock to that position in C again. Your mouse is now ready for use.

A TV LEAD

Unless you're in the sort of luck from that is going to

see their Amiga with a monitor, it should be very important. As its name suggests, it's responsible for taking the sound and pictures produced by your Amiga to your television so that you can actually see and hear what your Amiga is doing. Plug-in type at hand.

THE SYSTEM DISKS

It's all too tempting to simply throw away anything that doesn't look very slightly electronic, but be careful - looking through Amiga's 500 Commodore is a small white rectangular feature that contains your Amiga's system disks. These disks hold the Amiga's firmware (that is, the bit of the necessary files required to get it up and running). Put these disks for the moment because we'll be using a good look at what these disks contain in the next section.

THE GUARANTEE CARD

It's unlikely that your Amiga will ever become sick, but just in case it does, Commodore kindly provide a guarantee with this, which means that if something does go wrong within the first 12 months, they'll happily sort it out for you free of charge. In order for Commodore to know when you bought your Amiga and whether your guarantee is still valid, you'll find a guarantee card inside your Amiga (the first should be completed and posted back to Commodore as soon as possible). Filling out forms is pretty boring at the best of times so we will spare you if you decide to have a go with your Amiga first, but make sure that you do a number the first week of owning your Amiga.

LOSS OF SOFTWARE

If you bought the Amiga A1200 Desktop Dynamic pack then you should also find a number of software packages bundled with your Amiga. Most are somewhere under the rubber covers of your Amiga's box should be appear as Deluxe Paint IV, MGA, Wanderer 2, Paint Manager and two games - Oscar and Soccer. Commodore don't supply a joystick with the A1200, so let's put that

Even in these days of powerful Mac and PCs, the Amiga's operating system is still the most fun to offer fun multitasking.



the person that bought your Amiga will have had the meters to lay you a paper if you want to play those lovely games. We'll be covering the drive 'without' programs later, so stay tuned.

GET CONNECTED!

Now that you've got everything lying on the floor in front of you and you know that nothing is happening, it's got it all connected up so that you can start using your new acquisition. Grab hold of the Amiga and take a look at the rear of connection along the back of it. There may look rather bewildering, but don't worry — for the moment, all you need to do are labelled 'Power' and the one right next to it called 'Modem'. Plug the unidentifiable connector on the end of the power supply into the Power socket. Check to make sure that the power supply leads to it in the all position. (It should be placed in and then push the plug on the other end of the power supply into a power socket (these are usually supplied with a brown light, that's the power supply earthed out — now let's connect the Amiga to your television.

Getting your Amiga to talk to a television is

sometimes more involved, so now may be a perfect time to dig out the manual that came with your TV. If you don't know already, know how to turn your TV into a computer. Before you can do this, however, you need to connect the signal from the Amiga's RF Modulator port into the aerial socket on your television using the lead supplied by Commodore. Make the existing fit — that is, watch as the Amiga's power leads to the 'On' position and hopefully the Amiga should spring to life (well, the power light should come on at least). Select a recent channel on your television and then tune in that channel and you see a very mean, looking picture of a disk being inserted into a disk drive and a colourful 'test' symbol. Keep on moving your TV until you get the best possible picture and then store this setting into your TV's memory.

Right, now we know that everything is working okay, turn off your Amiga and then plug in the mouse controller into the port labelled 'MOUSE'. Once this is done, you can turn your Amiga back on again and stare at it for a few hours. Congratulations, theough it's a very

CARING FOR YOUR AMIGA

Amiga are delicate electronic devices that, if treated correctly, will provide you with years of working service. Here's a quick guide to the care of things that you can do to keep your Amiga not only working perfectly, but happy too.

1. **Keep it away from liquids such as coffee, salt drinks and (if there's any fluid that enter your Amiga can cause it to turn up and die, so be careful. If your Amiga gets dirty, then clean it with a duster — (if there may work wonders on your kitchen worktop, but I can assure you that the delicate electronics inside your Amiga will not be impressed.**

2. **Whenever you plug anything into the Amiga, always switch off your machine first. If you plug anything into your Amiga when it is still powered up, there's a very good chance that it will 'shoot sparks' causing small damage to your Amiga's insides. You may get away with it a couple of times, but not assured that eventually you will start break your Amiga!**

3. **Don't cover your Amiga with books and magazines. All electronic equipment heat-up as it is used and the Amiga is no exception. Those little vents on the top of it are there to help it to cool so if you cover them over, your Amiga will start to over-heat. If your Amiga gets too hot, electronic components inside of it will start to go bad!**

4. **Keep your mouse clean by using a mouse mat. Even on the cleanest surfaces there can be microscopic spears of dirt and grime that will be picked up by the rubber ball inside your mouse. As this grime builds up on your mouse, it will eventually stop up its internal.**

5. **Don't put anything other than disks into the Amiga's disk drives. The port on the right hand side of your Amiga may look like a basket, but the only thing that will get lost if you stick anything other than a disk into it is your Amiga (or even yourself).**

PORTS OF CALL

The status feature of the Amiga is its keyboard and disk drive, but lurking around the back of it are an assortment of connectors that allow you to connect your Amiga to a vast array of different techno paraphernalia. Let's take a look at what each connector is and what can be plugged into it.



1. **MOUSE:** The mouse port's sole role in life is to act as an interface between the Amiga and the mouse controller handled with your machine. Some games also use this port for the connection of a second joystick.
2. **JOYSTICK:** If you fancy playing a game or two on your Amiga, then a joystick should be connected to this port.
3. **DISK DRIVE:** The Amiga already has its own built in disk drive, but additional drives (up to three extra) can be connected to the Amiga via this connector. Adding an extra drive will make duplicating disks and copying files so much easier.
4. **SERIAL PORT:** The serial connector is a multi-purpose port that can be used to connect a whole host of different add-ons to the Amiga including modems, serial printers and even other Amigas.
5. **PARALLEL PORT:** By far the most powerful of all the Amiga's ports is the parallel port. Although designed specifically for the connection of printers, it can also be used to connect sound samplers, digitizers and a whole host of other add-ons to the Amiga.
6. **R. AUDIO:** The Amiga splits its 4 channels of sound into two stereo pairs that are output through these two connectors. If you're running your Amiga through a TV, then the sound will be sent as part of the RF signal but you can add a little bit of extra sound quality by feeding the output from these two connectors into the 'AUX' input on your Hi-Fi.
7. **VIDEO:** The video connector is designed primarily to allow you to connect an RGB monitor to your Amiga. A monitor will give considerably better picture quality. This connector is also used by 'video' devices such as graphics and colour cards such as OCGE.
8. **COMP:** The 'Comp' connector outputs the Amiga's display in composite video format. Although rarely used, it can be useful for feeding the output from your Amiga into a domestic video recorder.
9. **RF MODULATOR:** Older Amigas needed a separate TV modulator in order to display the video output from the Amiga on a standard television, but this is now built in as standard on the A600 and A1200. Unless you own a monitor, this port will be needed to view the Amiga's windowed graphics.
10. **POWER:** Amiga don't run on long life batteries, so you'll need to feed your Amiga an electrical supply in order for it to come to life. Only the power supply unit provided with your Amiga should be plugged into this connector.

Palette Preferences

If you're wondering what to do with the system disks that you found in the bottom of your Amiga's box, then let Jason Holborn explain.



The Amiga Extra disk contains a wealth of utilities that extend the capabilities of the Amiga Workbench.

THE SYSTEM DISKS

A good-looking stack of plastic and a couple of bits of cardboard might not be the only thing that you find in your Amiga's box, lurking beneath the polypropylene padding and manuals you should have found a white cardboard folder (containing files or possibly even an floppy disks). These disks contain what the boxes call your Amiga's "system software". This is, the software required to access the Amiga Workbench environment. You don't necessarily need these disks if you want to use your Amiga for nothing more than running *Body Moves* (but they're essential if you want to use your Amiga for anything even remotely creative).

All Amiga came the original A500 came bundled with three floppy disks. Being the proud owner of a brand spanking new Amiga A2000, the version of Workbench bundled with your machine should be 3.0 (or possibly even 1.1 - there's very little difference; the latest and greatest version is a long list of Workbench versions). Workbench 3.0 is a state of the art program that - when installed on what we estimate Workbench in *disk* (not later - allow you to operate your Amiga) (not) program, format disks and using multiple disks than your Amiga's mouse controller.

Before we do get into the Workbench, however, let's take a look at what your Amiga's system disks actually contain. You'll notice that the five disks are labelled Workbench, Extra, Tools, Storage and Locks. The most important of these is your Workbench disk, so let's start with that one.

WORKBENCH 3.0

The Workbench 3.0 disk is one of the five system disks bundled with your Amiga that will actually do anything if you mean the disk into your Amiga's

internal drive and switch on the power. The Workbench disk forms the core of the Amiga's system software and it contains all the low-level files and system files needed to get the Workbench up and running on your monitor screen. Don't be put off the rather-odd name you thought - simply switch on your power, insert the Workbench disk and it will automatically load Workbench for you.

If you double-click on the Workbench disk icon that will appear when the Workbench has loaded, you'll see six *double icons* appear: *Prefs*, *Utilities*, *System*, *Workbench*, *Draw* and *Expansion*. The first of these, *Prefs*, contains all the default settings for the look and feel of your Workbench. If you look in the *Prefs* drawer on your Extra disk you'll find programs that will allow you to alter these settings.

The *Utilities* drawer contains two programs - *MultiView* and *Clock*. Although the *Clock* utility is pretty obvious (double-click on it and it will set your time and what it does), *MultiView* is somewhat less obvious. But simply *MultiView* is a tool that will allow you to view (and hear!) files stored in what is known as *FF* format. *FF* is a standard method of storing different types of data such as pictures, sound samples, animations etc.

The *System* drawer contains a number of utilities that allow you to format (prepare) disks, edit and translate (a programming language) and of *File Expansion* (installing) *System* (format) game files to load and access the Amiga's *Shell* environment. The *Shell* is definitely the advanced (and only) environment for low-level access to the Amiga's disk operating system.

The last three drawers are somewhat less exciting. The *Workbench* drawer is a special drawer that is used to hold programs that you'll

like the Amiga to automatically run when the Workbench is loaded. If, for example, you wanted your favourite video files to automatically load each time you boot up Workbench, you'd place it in here. The *Draw* and *Expansion* drawers shouldn't really be touched until you know what you're doing as they contain files that the Workbench requires to operate correctly.

AMIGA EXTRAS 3.0

The Extra disk contains a number of extra utilities and system files that should quite fit under the Workbench disk. If you view the contents of the Extra disk, you'll find three drawers labelled *Prefs*, *Tools* and *System*. As you may have already noticed, two of these drawers already exist on your Workbench disk - as usual, not all the Workbench files appeared onto the Workbench disk as Commodore were forced to take this approach.

The Extra *Prefs* drawer contains a lot more than the *Prefs* drawer on your Workbench disk, however. If you open it up you'll find a list of three different programs, each of which controls a particular aspect of the Workbench environment. The *Palette* program, for example, lets you modify the colours of the Workbench screen and the *Folder* program lets you modify the shape of the Workbench mouse pointer.

In the *Tools* drawer you'll find a whole host of utilities that extend the capabilities of the Workbench. Most of them are essential, but you'll find them useful nonetheless. The *Workbench* program, for example, allows you to change the appearance of a Workbench icon and the *HD* test program is a powerful test utility.

Finally, the *System* drawer contains just a single item - *Workbench*. The *Workbench* program gives you control over the special Commodore online fonts that you can use on your Workbench. Online fonts can be stretched and shrunk without the loss in quality associated with normal "rasterized" fonts.



By the time you've installed your Amiga's system software, you'll have a Workbench disk as well as a number of other system disks that you'll need to make it work on your Amiga.

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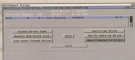
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If you bought an Amiga equipped with a hard disk, then you should have an optional software disk in your Amiga box. The contents of the programs you need to format your drive and install the Amiga's system software.

AMIGA FONTS

If you open the disk that came with your Amiga when Workbench is loaded, you won't find any icons on the disk. This is because the Amiga Font disk contains nothing more than font files. These files can be used by just about any program that makes use of the Amiga's font handling capabilities. Draw and Workbench's Drawing palette included. The Amiga Font disk also includes a whole host of typefaces in a selection of different sizes.

The Amiga uses two different types of font management files and system fonts—both of which are on your Amiga Font disk. Management files are files that come from the font that they are defined as such (screen fonts). The one big problem with managed fonts is that because they are pre-defined, they force their definition whenever you create or describe their use. Custom fonts, on the other hand, are what is known as "unmanaged" fonts. That is, the data required to draw the font characters on the screen is held as a series of coordinates which are stored into the memory of the Amiga. The year-long development time is that because they are unmanaged, you can stretch and compare them to your heart's content with little or no loss in quality. These custom fonts have been used to great effect in Workbench 1, the word processor included with your Amiga 4128.

LOCAL

Another new addition to the Amiga's Workbench is Local, a very flexible operating system that lets you automatically handle foreign languages internally making it a truly multilingual computer. The basic, so-called Local 1 is the one you choose the language that you'd like the Amiga to use when all programs that you load will automatically communicate with the user in their chosen language. If you choose French, for example, all your programs will display text in the

French language (parlez-vous, French!).

Not all programs will be able to make use of localization, however, so don't get too excited by the thought of running Draw in Japanese. Unless the program has been specifically written to support localization, the language that you choose will be completely ignored. At the moment, Local supports the following languages: English (of course), German, French, Danish, Italian, Norwegian, Czech, Swedish, Spanish and Portuguese—all of which can be found on your Local disk.



The Amiga also contains a great array of font files and you can install the Workbench to just use one system's fontfiles.

STORAGE

If only you had the storage disk which is attached to one of the most important disks second only to your Workbench disk. The Storage disk contains a vast array of files that will allow you to modify your Workbench to suit your own particular setup. If you double click on the Storage disk icon, you'll see five drawers—DiskTypes, Monitors, DOSDrivers, Fonts and Routines.

THE HORNSTALL DISK

If you have bought yourself an Amiga that comes equipped with a hard disk drive, then you should have found an additional disk called HDInstall 1.0 tucked away somewhere within your disk wallet. This disk contains all the programs required to format (prepare) your drive and to install it with the contents of your system disks. Commodore kindly formats and installs the Workbench files for you but it's worth hanging on to this disk just in case something does go wrong.

The DiskTypes drawer contains support files that can be used by other programs giving them access to foreign file formats. The DOSDrivers drawer contains files used by the Amiga's floppy disk controller allowing it to read disks from other computers. A good example of this is the CrossDOS utility bundled with Workbench that gives the Amiga the ability to read HDOS databases. The monitors drawer contains drivers for an assortment of different monitors including multi-sync and standard PAL and NTSC RGB monitors.

The Amiga doesn't just restrict you to the symbols that you see printed on your Amiga's keyboard when entering text. In the Region drawer you'll find keyboard configurations for a number of different countries including the US, America (the default setting), France and Germany. All these countries use their own unique symbols (currency symbols, for example) that their keyboards allow you to access.

Finally, the printers drawer contains a host of different printer drivers that will allow your Amiga to control just about any make or model of printer. You'll be covering printer drivers in quite some depth in the section on the Amiga (Reference system disk page 14).



Localization is a fairly new addition to the Workbench that allows programs to automatically adjust to a language selected by the user. What would you see if you were in French?

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LOADING WORKBENCH

Unless you've bought yourself a secondhand Amiga or one of the few remaining disks of Amiga 4000, the version of Workbench installed with your Amiga will be version 1.0, the latest and greatest in a long line of Workbench releases. Inside your Amiga's box you should have found a cardboard folder containing three five- or — in the case of hard disk-based Amigas — six disks. The most important of these disks is the disk labeled Amiga Workbench as it contains the Workbench program and all the associated files and libraries required to make Workbench run on your Amiga.

Loading Workbench is very easy indeed, just insert the Workbench disk into your AT280's internal drive, switch on and after a minute or so of disk access, the Workbench screen should appear. It's worth noting that if you bought an Amiga that has a hard drive built into it, it is not necessary to "load up" your Amiga from disk. All Amigas that have hard disks will have all the Workbench files "factory installed". Simply switch on your Amiga and Workbench will load from your hard disk.



The Amiga Workbench environment. Look on the desktop for icons which activate your Amiga software. Working icons take the appearance of windows.

INTRODUCING WORKBENCH

Most people's perception of a computer is a complex beast that requires a PhD in computer science just to operate. With the Amiga's Workbench, however, this couldn't be further from the truth. If you've managed to master the basic techniques of hand-eye-co-ordination, and you know how to operate the mouse controller (this again will operate Amiga, but you're already familiar with it).

The key to the Amiga's simplicity is the Workbench, a program installed with all Amigas that allows you to perform virtually every day operations such as loading programs, copying and

examining disks without having to get bogged down in computer jargon. The Workbench, like all similar WIMP-based (Window, Icon, Menu, Pointer) front ends is a development of the system pioneered by some bright sparks at Xerox's Palo-Alto Research Laboratories. Back then computers were operated by typing in complex commands into a keyboard. Although the system worked, a non-related source that its far more to the technocrat, the surounded computers take more than a few years back. Most of the more used the technique too, although in a much simpler form.

The basic idea behind WIMP-based systems like Workbench is that even if you don't understand

the language that the Amiga uses, you can still operate your machine simply by pointing and clicking. It's a lot like the technique that most of us use when using a pay meter, or in a foreign country (that is unless you know the language of the meter). Say, for example, you want to get on and you wanted to buy a loaf for your pet. You could try asking for it in English but chances are that the shopkeeper wouldn't know what you were talking about. You could switch to using for it using a couple of loaves that you had learnt earlier on in the shop, but then he probably wouldn't understand why you had asked him for shillings for the loaf! A much simpler way of getting what you wanted

THROUGH THE SQUARE WINDOW

All Workbench windows have what are known as "gadgets" attached to them that perform certain operations on that window when you click on them. In many ways, gadgets are very similar to icons. Let's take a look at what each window gadget actually does.

1. CLOSE GADGET

As its name seems to suggest, the close gadget is used to close a window. That is, to remove it from view. Once you've closed a window, the Amiga forgets all about it so it's up to you to double click on the disk or drawer icon that displayed the window in the first place if you wish to view the same window again.

2. STATUS GADGET

The drag bar is a bit of a multi-purpose gadget. When you're not using it, it displays lots of useful information about the disk that it is currently in use including its name, the number of bytes used by the files on the disk and the amount of space that is free. If you click once on the drag bar and hold down the mouse button and then move the mouse, the drag bar will also allow you to move the window to a new position on the Workbench screen. This can be handy for arranging windows when several overlap.

3. SHrink GADGET

If your Workbench screen seems to get a little cluttered then you can remedy the situation a little by clicking on each window's shrink gadget. The gadget simply shrinks the window to a minimum size. Click on it again and the window will return to its original size.

4. ARRANGE GADGET

If a window is being obscured by another

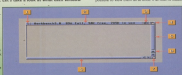
window it can be brought fully into view simply by clicking on its arrange gadget. If you click across the window without moving the window the Amiga will, that window can be seen behind the window you're interested in by clicking on its arrange gadget.

5. SLIDER GADGETS Because the Workbench allows you to be in the position of an icon (or group of icons) within a window, it may not always be possible to view them all at once. If an icon is hidden, it can be brought into

view by dragging the appropriate slider gadget up or down, left or right. This will cause the icon within the window to "roll" in the direction of the slider gadget. You can tell whether there are icons hidden from view because the slider gadget that controls the direction of scroll will also show the icon can be found in what direction. For example, the vertical slider bar (1) is the bar you click only shrinks and moves to the top of the slider gadget, then there are icons below the window boundaries. In order to access these hidden icons, simply click on the slider bar with the left mouse button and, while holding down the button, drag it in the direction of the hidden icons.

6. WINDOW GADGETS The small gadgets next to a window allow you to use the slider gadgets covered above but instead of scrolling the contents of the window vertically, they are used to move the screen. There are four of these gadgets, one for each direction of movement.

7. SIZE GADGET The size gadget allows you to shrink or expand the window to a new size. It's operated simply by clicking and holding the left mouse button and dragging the outline of the window that will appear to be new size. One 100 x 100!



PULL-DOWN MENUS

Another feature of the Workbench is its pull-down menus which drop down from the top of the screen when you move the mouse pointer over the Workbench icons and pull down the right mouse button. Pull-down menus simply contain lists of operations, with each item in these lists capable of performing a particular task. Each menu item will have the same of the operation attached to it so you'll know exactly what each one does. Don't worry, they're not all of equal size.

These menus (there should be four of them) can be accessed by holding down the right mouse button. Once you've done this, the list displayed within the Workbench window should change to the names of the four menus. Now simply move the mouse pointer over one of these menu headings and the menu attached to that heading should be displayed. You can then select an operation from that menu by moving the mouse pointer down through the menu, highlighting each menu item as it moves. When the mouse pointer is over the menu item you're interested in it should be highlighted, click the left mouse button and here goes - the operation should be performed!

Not all pull-down menu items will be so immediately accessible. Some require you to do something else first before they are made available. A good example of this is the Format disk option which we shall be covering later. In order for this option to be available, you need to have clicked on the icon for the disk that you wish to format. If an operation is not available, it will not be highlighted when you move the mouse pointer over it and its name in the menu will be ghosted.

The Workbench has the only program that uses pull-down menus. Most Amiga applications such as word processors, paint packages and music programs use exactly the same technique, so once you've mastered the Workbench's pull-down menus, using other programs becomes a doddle.

Small icons simply point at the data you want to interact with, perhaps that floppy disk or external hard disk. If there is an external hard disk you've got to do this as to say and use on the screen without the floppy disk being off.

Whenever a user points at your Amiga with every small pop-up menu, the background is pretty much the same. The basic rule behind the Workbench is that you communicate with your Amiga by moving an on-screen pointer around the screen using the mouse controller. To move the Amiga display the pointer (which also represents your mouse cursor) by moving the mouse pointer over an icon and then clicking the left mouse button, the operation associated with that icon will be performed by your Amiga. When you click on an icon, the icon image appears to be

Pull-down menus are an integral aspect of the Workbench. This screen shot is a screenshot which can be accessed simply by selecting the operation you're interested in with the left mouse button.



replaced - don't worry, this is simply the Amiga's way of showing you that the icon you've selected is still in the menu.

There are two ways of actually selecting an icon, however. If you click on an icon once, then you're simply telling the Workbench that you'd like to perform an operation on that icon. If you double-click on an icon (press the left mouse button in quick succession), however, you're telling the Workbench that you'd actually like the operation associated with the icon to be performed. Workbench uses the program that it allows users to do to identify the operation. If you selected to lock a paint program, for example, you'd type to double-click on its icon to enable it to be run. If you find that even when you double-click on an icon the program still doesn't run, then chances are that the time between your first and second mouse click is too great - my double-clicking is a little and it's about right.

DISK ICONOGRAPHY

Most of the operations offered by the Amiga's Workbench are geared towards working with disks and the files and directories that they contain. Once you have a disk icon on the disk drive ready for your Amiga, the Workbench will automatically allow to process and a disk-shaped icon will appear on the Workbench screen. This Workbench's way of letting you know that its successfully found the disk and its ready to use for you. You'll notice that the Workbench will also display the name of the disk below its icon - the Workbench will have the label Workbench.D behind it. All disks can have their own icons which are stored on the disk icon itself as follows in the directory tree.

You can view the contents of a disk from the Workbench by clicking the mouse pointer over the icon and double-clicking on it. The Workbench displays the contents of a disk by opening up what is known as a window. Windows are another important means of the Workbench that you

should be aware of. They basically are an frame that are used to contain a group of related icons. Each program, file or directory within the 'root directory' of a disk will have its own icon and the Workbench will group them together inside a single window.

FILE OPERATIONS

The Amiga's Workbench isn't just designed to handle the task of moving the contents of disks - you can also perform all manner of common operations on the contents of a disk, including the copying of the between disks and drawers, deleting and renaming files. We've already looked at how to load a program from the Workbench, to let's take a look at a couple of the more common 'housekeeping' things you might want to perform on the contents of a disk.

Copying files from the Workbench is a very simple indeed once you understand the basic techniques involved. The Workbench allows you to copy either a single file or a group of files either to another directory on the same disk or to a completely separate disk altogether. The essence of these two operations is the copying of the contents of a drawer to the same disk - all you have to do is to display the contents of the source drawer and the destination drawer by double-clicking on their respective drawer icons. If it were not, you should see two windows on the Workbench screen - one containing the files of the first drawer and the other showing the

ICON MANIA

Icons are used by the Amiga's Workbench to represent particular objects or operations in a pictorial form. The Workbench uses primarily three different types of icon - disk icons, drawer icons and file icons. Disk icons are automatically attached to any disks that you insert in the Amiga disk drives and they provide a quick and easy method of identifying a particular disk from any others you may have inserted into other (external) drives. When you double-click on a disk icon, the Workbench will display its contents in a window.

Drawers are slightly more complex as they are treated as almost disks within disks. A drawer is essentially a pigeon hole on a disk that is used to split this into groups. The best way to understand drawers is to think of the drawers in a bookable cabinet - although all the drawers belong to the same cabinet, each drawer can contain its own unique contents and unless you're a really top-notch one, the drawers can help to organize the contents of the cabinet considerably - you could have underwear in the bottom drawer, socks in the middle drawer and your copies of *DIY AMIGA* in the top drawer. Without drawers, all of these items would be mixed in together and the result would be nothing short of chaos (putting a copy of *DIY AMIGA* on your feet whilst reading your socks can be embarrassing!).

When you display the contents of a disk that contains drawers, only the files that are in the same directory as the drawers themselves will be displayed. If you want to display the contents of a drawer, you have to double-click on the drawer's icon and the Workbench will display a second window containing all the icons for the files or drawers within that drawer.

Lastly, file icons are attached to the individual files on your disk. Each file can be anything from a simple data file (such as a picture you've drawn in *DrawPro*) to a program which can be run by double-clicking on its icon.



Double-clicking on a drawer icon will cause the Workbench to display the contents of that drawer in a separate window.

The Workbench uses primarily three different types of icon, each of which is attached to a particular type of disk object.



File Preferences



When you click on a file or folder, you can easily access both the file and folder menus. The File menu is always open, and the Folder menu is only open when you click on a folder.

contents of the drawer you wish to copy that file to. All you have to do to actually start the copying process is to move the mouse pointer over the file, click and hold the left mouse button over the copy and then release it holding down the mouse button using the icon in the destination drawer and let go of the left mouse button. When you drag the icon, it should follow the mouse pointer across the screen. If all went well, the disk drive light should come on and exhibit a second, or two, the file will be copied to its new location.

Copying files between disks is somewhat more involved unless you're lucky enough to own an Amiga equipped with two or more disk drives. If your Amiga only has a single drive, however, follow these simple instructions. First, insert the disk containing the items to file and then double click on the disk's icon to display its contents. Enter the drawer containing the file and then remove the source disk. Don't close the window you're just opening, however—we'll need them later!

Next, insert the disk that you'd like to copy the file to and then double click on its disk icon to bring up a window containing its contents. Double click on the drawer you'd like the file copied to, and, once it appears, move the mouse pointer over the icon for the file that you'd like to copy. You don't close the window when you removed the source disk, did you? And then click and hold the left mouse button and drag the icon across into its new drawer. Unless you've got a multi-drive system, the Amiga will prompt you to remove the source and destination disks a couple of times, so just follow the on-screen prompts and you won't go far wrong.

RENAMING AND DELETING FILES

Once you start working with your Amiga, whether you're moving pictures in your business page program or are trying to get a long list of letters, you'll undoubtedly find that you'll eventually want to rename disks, drawers and even files. To rename any type of icon, simply move the mouse pointer over it, click on it with the left mouse pointer and then release. Release from the icons pull-down menu. If you selected the operation correctly, a response should pop up onto the screen containing a string prompt to string prompt to string a copy of prompt that you can type and edit (usually about nine characters of the icon you're selecting). When you click the mouse pointer, inside the prompt, a cursor should appear that moves where any text that you type will be entered. Simply enter the naming name (using the keyboard) and then enter the new name. Once you're happy with the new filename, press the return key and the Amiga will rename the file using the letters you entered.

Files and even drawers can be deleted just as easily and they can be recovered too. You may find that after using the same disk in hold of your file it will start to become rather full all of a sudden. This is where the Workbench's delete function comes in handy. The use of the delete function is pretty obvious—it removes a file or drawer (and also the space contents of that drawer) from the disk, but they are an freeing up valuable disk space in the process. To delete it, simply select it with the left mouse button and then move the mouse pointer up to the icons pull-down menu and select the Delete menu item. A response will then appear asking you if you're really sure about what you're trying to do. Be very careful—once you've deleted a file or a drawer, it's virtually impossible to get them back! If you are sure, however, click on the 'OK' gadget and the Amiga will start to remove the file or drawer from your disk.



Note: files and drawers can easily be restored by selecting the Restore option from the icons pull-down menu.

FORMATTING AND COPYING DISKS

If you've already played around with Workbench, you may have noticed that the Amiga doesn't like blank disks unless they are formatted first. If you try saving a file onto a disk that hasn't been formatted beforehand, the Amiga will reject it. Don't worry—this doesn't mean that the disk is in any way damaged. All you have to do is format it and the Amiga will then happily accept the disk as one of its own. Formatting is a very simple process that essentially prepares a disk. It's a bit like copying a chest of drawers from a DIY store to someone's relatively warehouse space; the DIY worker will rearrange the drawers. When you get there, however, it's down to you to prepare (build) the kit into a space-chaos of drawers. What's more, unlike any file more reliable than floppy because it's more likely to be kept, so once a disk has been formatted, it's never to be formatted again.

Formatting a disk under the Workbench is very simple indeed. Start by removing your Workbench disk and then insert the disk that you wish to format. Although a disk icon will appear on the Workbench for that disk, this doesn't mean that it has already been

COPYING DISKS

The Amiga's disk drives are generally very reliable, but accidents do happen—a disk could suddenly develop a fault or you might even spill a cup of coffee all over it. If all your important files are on a disk that has developed a fault, then you might as well save yourself by all your valuable data—it is possible to recover some files if the disk is not that badly damaged, but there's no hope whatsoever if the disk is clogged up with a strange gooey substance containing a dash of milk and two eggs!

It's therefore a good practice to get into the habit of making backups of all your important data. Although the Workbench won't back up your games (these have copy protection built into them that prevents such practices), you can easily make backups of non-protected disks such as those that you formatted yourself under Workbench. Backing up a disk is very simple. Start by removing your Workbench disk and then insert the disk that you wish to copy. Click once on its disk icon and then select the Copy option from the icons pull-down menu. The Amiga will then ask you to remove your Workbench disk. Do as it says and after a few seconds a window will appear asking you to insert your source disk. This is the disk that you wish to copy. Do as it says and the Amiga will start to copy the first part of the disk. After a few seconds or so, the Amiga will then ask you to insert the destination disk. This is the disk that you wish to copy the source disk to. Do as it says and after a couple more disk swaps or so, the destination disk will contain an exact copy of the contents of the source disk.



The entire contents of a disk can be formatted on using the Workbench DiskCopy function.

Formatted—if the disk space is 'DIRTY' then the disk will have to be formatted. Click once with the left mouse button on the disk's icon and then select the Format Disk... option from the icons pull-down menu. The Amiga should then ask you to reinsert your Workbench disk. Do what it says and then after a few seconds the screen you'll be asked to reinsert the format disk. After a few stages (check your disk on the 'OK' gadget) is completed, the disk will start to format. As the disk is being formatted, the Amiga will display a small graph showing the progress of the formatting process. Once this is done, the graph window will close and your disk will be formatted (happy, it's now ready for use).



To delete a file from one place to another, simply click and hold the left mouse button and drag the icon across into the destination drawer.



Before a new disk can be used on your Amiga, it must first be formatted.

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Palette Preferences

The Amiga's Workbench was one of the first working and more powerful GUI systems available on any home computer, but it would be impossible for it to expect to give you the same results you'd get from other systems. Commanders were keen to give you things with both the ability to modify the appearance and operation of the Workbench further than you could see through. The secret to all this customizing power is a little drawer folder known as your Amiga's disk palette. And when you double click on it, certain Preferences open.

Each of these sets of Preferences either will allow you to modify the appearance of a particular aspect of the Workbench operation. There's a Font preference editor for modifying the Workbench's cursor colors, another editor for changing the appearance of the mouse pointer, another for setting up the Amiga's caret and so on. What you do in these editors either sets an editor, say an editor, or the cursor or mouse pointer settings for the particular editor, will be loaded into memory and then saved so you can modify them to suit your own particular needs. Once you're happy with your new settings, simply click on either the **OK** or **Cancel** buttons to make sure you save (the **OK** button will make your new settings permanent, whereas the **Cancel** will make them temporary). Don't worry if you make a bad choice of the settings — you click on **Cancel** and the Workbench will once again load in the last saved settings.

You may have noticed that the Preferences dialog contains a list of icons (each icon) which is a relatively simple drawing that is drawn (and drawn) if you're using a high-resolution Amiga, both the Preferences editor and the icons drawn will be in the same drawing. But if you're operating in low-resolution Amiga, both the Preferences editor and the icons drawn will be in the same drawing. But if you're operating in low-resolution Amiga, both the Preferences editor and the icons drawn will be in the same drawing. But if you're operating in low-resolution Amiga, both the Preferences editor and the icons drawn will be in the same drawing.

However, what is most interesting is that you can do what each Preference editor allows you to do. In other words, the font preference editor will allow you to change the font used for the program you're using. The font preference editor will allow you to change the font used for the program you're using. The font preference editor will allow you to change the font used for the program you're using.

FONT



The Font preference editor gives you complete control over the type and size of font used by the icons on the Workbench screen. The default system font is called Times.

INSTALLING A PRINTER

If there's one aspect of the Amiga's Workbench that confuses more than its fair share of users, it has to be the question of installing a printer. Although printers may look rather similar to you, very few of them speak the same language. Each talks every program in a different dialect, and all the instructions needed to print anything from a simple page of text to a complex graphical printout. In order for your Amiga to be able to send the correct codes required to communicate with your printer, a special file called a printer driver is required.

The printer driver's job is to act as a mediator between the raw codes produced by programs like DPaint and ProDraw and your printer. The printer driver takes these raw codes and converts them into a format that can be understood by your printer. Commodore supply a variety of different printer drivers designed for the more popular makes of printer — the Epson's driver, for example, can drive most 24 pin dot matrix printers that use Epson's control language and the HP-LaserJet driver is designed for laser printers that use Hewlett-Packard's HP control set.

Installing the printer driver that is right for your printer isn't as difficult as you might think. Hidden away in the Printers drawer on your StorageFlo system disk are a whole host of printer drivers, each of which has its own icon. All you have to do is install the driver that you need to be, to drag the printer driver icon from the drawer and copy it into the Printers drawer in the Icons drawer on your Workbench disk. Once this is done, load up the Printer Preferences editor discussed above and select the driver from the list that will be produced. Finally, click on the **Save** button and your printer will be ready for use.

PREFERENCES

If there's an aspect of the Workbench that doesn't quite suit your needs, then why not change it? Check out the Preferences system.

the font. By default, all three of these use the standard Times Roman font but you can modify them to suit yourself any size or type of font that is installed onto your Amiga. You can also change fonts, however — using a **W** point font for your Workbench icons may sound very good, but our Workbench screen will look rather unattractive.

LOCALS



The Locals preference editor allows you to change the time Amiga and any local-compatible programs use when displaying text on the screen. The programs use when displaying text on the screen. The programs use when displaying text on the screen. The programs use when displaying text on the screen. The programs use when displaying text on the screen.

POINTER



The shape of the Workbench's mouse pointer (and you can choose the color of the mouse pointer) can be changed in the Pointer Preference editor. Using the editor it is as if the drawing system is a paint program.

the effect — simply select the color that you want to see from the drawer of four available color dials into the changed pointer display which looking about the left mouse button. As you drag the mouse pointer, new points (shown in red) will appear and the results will be previewed in the four dials to the right. The editor also allows you to change the shape of the mouse pointer too, which is produced when the Amiga is working on text that it's unable to handle printing out. The default shape for the Mouse pointer is an arrow that has you can change it to anything you want.

PRINTERS



If you've ever noticed that paper that is too small enough to print a Preference or compatible laser printer, then this is the Preference editor for you. The Printers editor allows you to fine-tune the operation of several icons from your Amiga. In order to get your Amiga to talk to a printer, however, you'll need to change the Preference editor using the Printer Preferences program. This editor allows you to define the number of copies, the paper format of your printer, and margins and so much more besides.

SOUND



The Sound Preference editor is perhaps the simplest of all the preference programs. It simply allows you to control the operation of the Amiga's Diskspeed function that controls when you do something wrong. Under normal circumstances, the display will show that you can do things a sound in the Amiga, when a simple beep or even a simple sound. If you're lucky enough to have a sound card, you could have a sound of your own. The Sound editor also gives you complete control over the mode of the sound of volume and — in the case of a simple beep — the length of the sound.

CONTROL



The Control window gives you control over a variety of things, such as the Workbench's operation, screen display, mouse and position of other windows, fonts, the mouse Drag palette, and whether to allow the cursor space (shown with the mouse wheel) to be used for the four steps that you select a program. Control is a new feature of Workbench 3.0 that attempts to reduce the amount of clutter that is present when a program opens as described in the previous screen. Finally, the experimental features you control now show how the pull-down menus work, and gutter lighting and mouse protection. The first two are pretty obvious, but the mouse protection feature needs a little explanation. How do the Amiga designers force the DRG display screen under control of the mouse? The answer is that the mouse wheel allows you to change through a table the "what" property for a document or window so that it is displayed in a format that most makes sense.

OVERVIEW



Every Amiga screen consists of two parts—the regular screen plus a screen that the Workbench is displayed on top of the border. Thanks to some improved video hardware inside your Amiga, you can expand the size of the Workbench display to take advantage of the unused area that makes up the border around the screen. The special feature is called Overview and it lets you manage what you see when the Overview Protection option that you set is opened. This type of non-invasive sign for editing and graphics (which is the official tool, see a bit later), but the microprocessor is prevented from doing so from stepping off the edge of the screen.

PRINTER



If you're planning to connect a printer to your Amiga, then this is one of the most important Windows editors available. Although you may think all printers are the same, you can see that the things you refer are known as drivers. When you select the printer's name, it is listed for you. Amiga will make the driver you select work. If the Printer Protection option allows you to select which type of printer driver you wish to install on your printer, then it gives you a number of other controls such as the line spacing, which port the printer is connected to, and print quality (dither or 7500) etc.

SCREENMODE



By default, Commodore have set the Workbench to display three different resolutions made up by standard PAL modes, but this can easily be changed to either allow those if you're lucky enough to own a custom clocked-up high-end hardware. Once fixed, the Workbench Protection editor displays a list of the available resolutions at the left-hand side of the window. If you're looking for the standard Workbench display, then this is the only screen mode available on the screen. But you can easily install Hi-Res, Hi-Res and Hi-Res PAL (three line) screen modes. From the best PAL modes offer an effective screen mode—low resolution, high resolution and super high resolution in both standard and expanded modes.

TIME



Every Amiga clock is a clock that keeps track of time according to the Amiga's internal clock. If you're lucky enough to have also bought a hard expansion for your Amiga, then the feature is factory locked clock, then the clock will be continuously rechecked once if your Amiga is installed off the Time Protection editor allows you to set both the time and the date to that when you use it to set. The Amiga also does time with the same time and date that the file was transferred. This can prove particularly handy if you have several copies of the same file and you're unsure which is the most recent. If the clock is normally set, allows you to do it to check the file's date stamp!

INPUT



The Input Protection editor allows you to fine-tune the keyboard and the mouse's keyboard and pointer input settings. In general, the settings that you set will be applied to the keyboard that is, which normally is connected to the Amiga through a serial or keyboard port. However, the Amiga can also be connected to a keyboard through a parallel port. If you selected an American keyboard, you'll get a "U" keyboard instead of the great British pound sign. Secondly, the Input editor also allows you to install fonts on the keyboard to be used for your typing and how much time the keyboard should allow between mouse clicks when you double click on an icon.

PALETTE



The Workbench's original look, white and grey images, could seem to be a little bit boring. So Commodore have included a Palette editor for changing the colors of the Workbench icons. This editor allows you to modify the color of the icons and use the Workbench's screen. Simply by clicking on the color you wish to change from the top of the window, you can instantly see the Amiga's amazing 65,536 color palette. The Palette editor allows you to pick a color using any one of these methods:

By picking a color from the color wheel by clicking a color by its red, green and blue components or by opening a table of the currently selected color. Just to make sure the color editor always shows you the color, a "Show Color" option displays a preview of what the Workbench will look like with your color palette.

PRINTING



Although the Printer editor will give you control over many aspects of how the Amiga controls your printer, printing operations are usually defined but given altogether when you either have a separate editor called Printer's II. The editor gives you extensive control over how printers are printed by your printer. To increase the quality of your printing, the editor allows you to select a number of different dithering patterns, and you can even experiment with attempts to smooth out the jagged edges normally associated with dithered images.

SERIAL



The Serial Protection editor is only really of use if you're intending to connect a serial printer to your Amiga. In order for you to be able to work with your Amiga in a printer to set up the serial port without the information protocols used by the Amiga, much more need for your printer. As well as the best use of the speed of the bus transmission, the Serial editor allows you to set the type of functioning system, and you can even experiment with the type and the number of stop bits.

WAPATTERN



The WAPATTERN editor allows you to change the look of the patterns used for the Workbench's icons and windows, any window that you open on the Workbench. When you first use the editor, you should see a whole host of patterns but this will soon be more limited if you select the Pattern List of those patterns you allow to be shown in your palette. When you click on the pattern, the icon within the palette will change. The WAPATTERN editor allows you to swap between the Workbench's system and the window patterns and the Input editor allows you to select other a pattern in a pattern. If you select Patterns, you can change your own custom settings using the right-hand side of the editor's window. Selecting Patterns will allow you to set an off pattern screen.

POWER

Installing a printer driver is very simple indeed. To make the driver that you need from the Printer's screen on your Amiga, it takes up the Power Protection editor on your Workbench. Once this is done, you'll need to select the driver for use with the Printer's Protection program.

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Palette Preferences

Now you could possibly argue that the Amiga's Workbench is underpowered, especially when compared to IBM® systems or the PCs and Macs of this world, but it won't let you do one thing. Sure, the Workbench provides a nice and easy method of copying out those clip-to-the-clipboard chores such as formatting disks, saving files, etc. but if you want to really get your hands dirty, you need to go to grips with the AmigaDOS Shell environment.

As you begin deals with the Amiga line of hardware, you'll probably find that the Workbench is just too simple to handle every task that you throw at it. Even the ultra-powerful version of Workbench bundled with all Amiga since the release of the A1200 won't let you do everything. Commodore's software engineers know this too, which is why the Amiga also supports another method of interacting with the operating system—the AmigaDOS Shell. The Shell provides you with a simple method of executing the majority of the Amiga Disk Operating System (AmigaDOS), the part of the Amiga's low-level operating system (the Amiga "kernel," if you like) that's primarily responsible for handling disk drives. AmigaDOS doesn't run programs — a job handled the transfer of data to and from your Amiga's floppy and hard drives.

AmigaDOS itself is nothing more than a collection of routines laid into the Amiga's ROM which obviously can't be accessed by the user. The Amiga ROM, however, allows you to enter use of these powerful routines via the Shell which is a program that acts as a mediator between you and your Amiga's disk operating system. This power also comes at a price, however — given me the fancy icons, say-to-you pop-down menus and the liberally abused mouse control offered by the Amiga's Workbench.

Don't let this put you off. Using the Shell isn't that frightening. Using the Shell is a lot like using computers of old — instead of pointing and clicking on icons, everything you want the Amiga to do must be entered via the keyboard in the form of a command. Many few of these commands are actually built into the Amiga — most of them are on your Workbench. Hidden away in your Workbench disk is a drawer called C (short for Commodore) that contains a directory containing a number of low program files specifically designed for use with the Shell. Each of these programs performs a particular task — there's a command to copy a file, a command to delete a file and so on.

USING SHELL

Accessing the Shell is very easy indeed. Simply boot up your Amiga with your Workbench disk, double click on the Workbench disk icon and the contents of the Workbench will be displayed. Looking somewhere within the Workbench window should be a drawer labelled System — double click on this and a program called Shell should appear within the System window. Double click on this and a window should appear containing nothing more than the text: I DTS followed by an orange-colored cursor. By typing your name and then press the return key, if all went well, the Amiga shell screen (referred to with your name followed by the file's filename) appeared.

AMIGADOS EXPOSED

If you want to unlock the real power of your Amiga, then AmigaDOS is for you. Jason Holborn demystifies the secrets of the Shell.

To what has happened? For simply, each time the I DTS prompt appears on the screen, the Amiga is waiting for you to give it something to do. When you enter a command, the Amiga checks through the list of Shell commands that it has in its C directory and if the first word in the instruction that you pass it matches the name of one of its commands, that command is executed. If, on the other hand, you enter something that it doesn't understand, it will display the "unknown-command" error message followed by the I DTS prompt again.

Each time you enter a line of text into the Shell, it splits the complete line into the individual words that form the command. If, for example, you entered, "format my disk," the Shell would split this into three words: format, my and disk. The first word in the line (format) is treated as the name of the command and the two words that followed it are treated as parameters. Parameters are simply the values that are passed to the command that you've entered. AmigaDOS isn't at all interested in the parameters that you pass, so it's a translation down to the command itself to make sure that the parameters that you pass are acceptable. If you pass parameters to a command that isn't expecting them, it'll display an error message and not AmigaDOS.

COMMAND PERFORMANCE

Right, now that we've discussed the basics of working with the Shell, let's get stuck into some common Shell commands. The Shell offers an almost overwhelming array of commands that will allow you to perform the same disk maintenance tasks that the Workbench offers, but simply plus a whole lot more besides.

You can format disks, copy disks, copy files to and from disks, delete files, delete directories, list files if you can think of a disk operation, however, and the AmigaDOS has a command that can handle it. It's called the cat handle file, which follows the usual description of sorts of

file more common Shell commands that you'll need to master in order to get the most from the Shell. So without further ado, look at your Amiga, load up the Shell and give them a whirl.

CD - PATHNAME

The CD command changes the current directory. That is, the directory you are currently working in. When you first load the Shell program, the current directory is always set to the root directory of your hard disk, but in your hard disk or the floppy disk. If you want to work on the files in another directory, however, it's much simpler to change the current directory setting using the CD command than it is to keep on using the directory's pathnames. All you have to do is give the CD command the pathnames of the directory that you'd like the current directory changed to.

For example, you wanted to work on the files in a directory called MYDIR on a disk called MYCDD. Instead of having to type MYCDD:MYDIR:FILENAME for every file you wished to work on, you could simply type CD MYCDD:MYDIR and the current directory will change to that directory. You can now access the files in that directory without having to enter the full pathnames.



The AmigaDOS Shell command shows you're now in the directory through the amount of letters.



A quick double click on the Workbench disk icon in the AmigaDOS Shell will open the Shell environment.



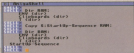
The Amiga's Shell environment allows you to unlock the hidden power of AmigaDOS, the Amiga's low-level disk operating system.

COPY SOURCEFILE TO DESTINATIONFILE

The copy command is used to make a copy of a file either from one disk to another or to another directory on the same disk. Using wildcards, you can even use the Copy command to copy a whole branch of files on a master. Using the Copy command is very simple indeed — simply feed it the filename of the file that you want to copy (complete with its path, if necessary) and the name of the directory that you'd like to copy the file to and AmigaDOS will do the rest.

If you simply specify a path as the destination, the file will be copied using its original filename but if you specify a new filename, the copied file will use the filename instead. Say, for example, you wanted to copy a file called *pro* to a disk called *fred* — all you'd have to do is enter, "Copy *pro To:fred*". The Copy command would then produce an exact copy of the file called *pro* onto the disk called *fred*. If, on the other hand, you entered "Fred *pro:fred*" for the destination, the copy of *pro* would automatically be renamed as *MyFred:pro*.

The Copy command involves a quite complex method of combining a file from one place to another.



DELETE FILE

The purpose of the delete command is pretty obvious but for those of you who are less perceptive, its sole role is file to remove files and/or drawers from your disks. Using the delete command is very straightforward — all you need to do is to feed it the filename of the file that you'd like to delete. Say, for example, you wanted to delete a file called *MyFile* on a disk called *MyDisk*. Not surprisingly, all you'd have to enter is "Delete *MyDisk:MyFile*" and the file is history!

The delete command can handle wildcards as well, so it's perfectly possible to delete entire

collections of files in one fell swoop. Be very careful when using wildcards with the command though — if you have a file that is important to you that matches the wildcard pattern for the files that you're deleting, it will be deleted too! It's in the user's interest.

Deleting drawers is somewhat more involved. The delete command has an extra option called "D" that can tell the command to delete not only a directory, but its contents too. If, for example, you wanted to delete a drawer called *MyDrawer* on a disk called *Fred*, all you'd have to enter is "Delete *Fred:MyDrawer All*". It's as simple as that!

ON THE RIGHT PATH

Before we enter in and start discussing the sort of things that AmigaDOS is capable of, it's important that you grasp a few basics. One of the fundamental aspects of AmigaDOS that you must understand in order to get to grips with it is how AmigaDOS addresses disks. From the Workbench this is very simple indeed — all you do is insert a disk onto the Workbench and a disk icon will pop up onto the screen. Then all you have to do is to double click on the disk's icon and you're given immediate access to its contents. AmigaDOS, on the other hand, isn't quite so straightforward.

As we discovered in our look at the Amiga's Workbench, all disks have a name attached to them that is used to identify them. AmigaDOS allows you to identify a particular disk by simply passing it the name of the disk followed by a colon symbol. If, for example, you wanted AmigaDOS to perform an operation on a file held on a disk called *Fred*, you could tell AmigaDOS to use this disk by referring to it as *Fred:* (note the colon). If the file was called *Jim*, the full pathname would therefore be *Fred:Jim*. Coped! We've introduced a jargon term which should be explained — pathnames. A pathname is simply a description of where on a disk a particular file can be found which starts from the disk itself and works downwards through any drawers that may be on the disk.

AmigaDOS also allows you to access a disk in a more indirect way by telling it which disk drive the disk is currently located into. Each drive on the Amiga has its own device name which is similar to the names given to disks, but they refer to the disk drive unit itself rather than the disk that is in the drive. The internal drive fitted to your Amiga is called *DF0:* (note the colon again) and any further drives that you fit to your Amiga will be called *DF1:*, *DF2:* and so on (up to four drives

are allowed). Unlike disks, however, the names given to disk drives are fixed, so you can't change them. Just for your reference, the DF list stands for **DEVICE FLOPPY**.

It's important to understand the structure of a disk too. When you first format a disk, you may think that it contains absolutely nothing. This isn't quite true, however, all disks have at least one drawer... the disk itself. This special drawer (or directory, as they are called under AmigaDOS) has an equally special name which is referred to in jargon terms as the **Root Directory**. All drawers that you create on a disk branch off from this **Root** root directory.

Specifying a file that can be found in the root directory of a disk is very easy indeed — all you need to do is to tell AmigaDOS the name of the disk (or the name of the device that the disk is in) followed by the name of the file and you're away. But what happens if your file is located in a directory? Well, you'll be pleased to know that this is just as simple. As you will know, all directories (drawers) have their own unique names, just like a disk or a file. If, for example, you wanted AmigaDOS to have access to a file called *MyFile* that was in a directory called *MyDir* that itself was on a disk called *MyDisk*, all you'd have to do is to extend your pathname to: *MyDisk:MyDir:MyFile*. Note how the directory name and the filename are separated by a backslash symbol — this bit is very important because it tells AmigaDOS that *MyDir* is the name of the directory that the file *MyFile* can be found in. The theory is just as easy if you wanted to access down through more than one drawer — say, for example, *MyDir* was itself in a directory called *MyOtherDir*. The pathname for this would simply be *MyDisk:MyOtherDir:MyDir:MyFile*. Note how the pathnames start with the name of the disk and then work down through the disk structure until it finds the name of the file that you're interested in. Easy eh!



The structure of all disks can be represented like this. It starts at the Root Directory, it then branches out to the drawers that contain it, and then down to the files that are in those drawers.

TYPE COMMANDS

```
TYPE FILE [FILE] [FILE] [FILE] [FILE]
        FILE [FILE] [FILE] [FILE] [FILE]
        FILE [FILE] [FILE] [FILE] [FILE]
```

The type command comes in very handy when you need to display the contents of a text file. Simply by pressing the **File** command will display a file on the screen. The type command will display a file in the Shell window. If the text file is longer than the total length of the Shell window, the text will scroll up the screen and the entire contents of the file have been displayed. You can halt the scroll at any point, however, simply by pressing the

You can't have to create the Shell window every time you want to display a file. Simply use the **Format** command.

space key, and you can restore the scroll by pressing the Backspace key. For an example? Okay, give this a try - Type **Mount-Separate**. This command displays a file called **Mount-Separate** which is held in the **5** directory of your basic disk. **FORMAT DRIVE** -> **Format** -> **Mount-Separate** -> **File** -> **Mount-Separate**. Also surprisingly, the format command does exactly the same job as the format disk - option on the Workbench but the whole process is carried out within the current Shell window. Simply list it in the name of the disk drive that the shell is in and the name that you'd like to give the disk and AmigaDOS will prepare the disk for you. Note the letters **DRIVE** and **NAME** too - although these aren't useful purposes.

AmigaDOS notes that they are added so that the name of the device and the name that you'd like to give the disk are kept separate.

So, for example, you wanted to format a disk that was in the internal drive and give it the name **MyDisk**. You would therefore enter: **Format DRIVE DFD: NAME MyDisk**. Be very careful when formatting disks - if you format a disk that contains important files, they'll be lost forever since AmigaDOS starts to format the disk.

DIR COPY - SOURCE DEVICE - TO - DESTINATION DEVICE

Let's use the **Format** command again. This is the **DirCopy** command. That's right, it copies your files. So, it copies the entire contents of one disk to another. Just like the **Format** command, it requires two parameters - the name of the floppy disk holding the source disk (the disk that you would copy) and the name of the copy holding the disk that you'd like to copy to. Here if you only have a single drive on your Amiga, you can utilize the **DirCopy** command - simply specify the same source and destination drive name and the Amiga will attempt you to copy disks whenever necessary. Don't worry - copying an entire disk takes no more than four or six days.

Below are the methods we could mention, the

SINGLE DRIVE SHELL

Although AmigaDOS will work perfectly well on an Amiga with nothing more than a single floppy disk, it isn't always that practical. Because of the Amiga's Shell commands are held on the Workbench disk, the Shell needs constant access to this disk in order to use these commands. If you remove the Workbench disk and then enter a command such as **CD DFD:**, the Amiga will almost immediately prompt you to reinsert the Workbench disk. Problem is, as soon as you insert the disk, the **CD** command will be executed and the current directory will be set to your Workbench disk rather than the disk that you actually wanted to **CD** to.

Fortunately, there is a way of getting around the problem by making use of the Amiga's **RAM** disk, a sort of pseudo floppy disk that is held within the memory of your Amiga. The **RAM** disk isn't a real disk drive - it's simply an area of memory inside your Amiga's **RAM** that AmigaDOS treats as a disk. It does come in pretty handy for temporarily saving AmigaDOS Shell commands, however. Simply by copying the Shell commands from your Workbench C directory into the **RAM** disk and then telling the Shell that you'd like to look in the **RAM** disk for its Shell commands, you can stop the Amiga from prompting you for the Workbench every time you enter a Shell command.

All you need to do this are three commands: **CD** and **PATH**. You'll already know it in the **Copy** command, but the **Path** command is new. What it basically does is to tell AmigaDOS that it should use a named path (hence the command's name) as a search directory whenever it attempts to load a Shell command. Enter the following lines and then remove your Workbench disk and enter one of the commands that have been mentioned - if all went well, the command should run without asking you to reinsert your Workbench disk.

```
CD C:
```

```
Copy DR: COPY DELETE TYP Nam
```

```
Path Nam ADD
```

Amiga doesn't automatically assume that the destination disk has already been formatted, so you can copy a disk to an unformatted disk. Because the Amiga copies the disk at a very low level, over the format of the source disk, it copied 'as is' if you're thinking about partitioning, a word of warning - most games are copy protected so attempting to copy a game file using the **DirCopy** command will not work. Anyway, the sort of thing is very unusual so don't be surprised - the more games you copy, the less chance you have that Amiga game programmers will continue to produce state-of-the-art games for your machine.

WILDCARDS

Working on individual files is all very well if you're only working with two or three files, but can you imagine the drudgery of having to copy hundreds of files? If you want to manually copy each file individually, it would take you literally hours! A much better solution is to take advantage of wildcards, a very clever technique offered by AmigaDOS that allows you to tell a Shell command to work on more than one file at a time using a search pattern to pick out the files that you do want from those that you don't.

So, for example, you had a directory filled with files that ended in **.BAR**. Simply by telling AmigaDOS that you'd like it to work on all files that ended with this extension using a search pattern, all the files could be processed with a single command. Pattern matching uses two special symbols: ***** and **?**. The ***** symbol means any single character and the **?** means any number of characters. Going back to our earlier example, you could use the **?** symbol to select all files that ended in **.BAR** using the search pattern ***?.BAR**. Alternatively, you could be more selective by restricting the pattern matching to any files that ended with **.BAR** but started with the letter **S** - the resulting wildcard would be **S*.BAR**. This wildcard could produce anything from **SANDBAR.BAR** to **SABAYBAR.BAR**.

The ***** symbol gives you far more control over the exact format of the files that the pattern selects. Because each ***** symbol represents just a single character, a wildcard such as **AMIGA** would only select filenames that were exactly five characters long and started with **A**, and ended with **A**. **AMIGA** and **AMIGA** would be selected but **AMAMMIGA** would not.

DIR COMMANDS

```
DIR [DRIVE] [FILE] [FILE] [FILE] [FILE]
DIR [DRIVE] [FILE] [FILE] [FILE] [FILE]
DIR [DRIVE] [FILE] [FILE] [FILE] [FILE]
```

Wildcards provide a useful and easy method of searching the names that appear on a series of files 'in memory'. All the files can be selected simply by specifying a search pattern.

```
DIR [DRIVE] [FILE] [FILE] [FILE] [FILE]
DIR [DRIVE] [FILE] [FILE] [FILE] [FILE]
DIR [DRIVE] [FILE] [FILE] [FILE] [FILE]
```

Palette Preferences WRITE AND PAINT

Let's take a look at *Deluxe Paint* and *Wordworth 2*, two of the software packages bundled with your Amiga A1200.

If you were lucky enough to receive the Amiga Desktop Dynamic bundle with your Amiga 1200 then you should have found a number of extra programs. Amongst the bundle of your Amiga's free. (These two freeware games are a lot of fun, but I'm assuming from this Amiga user are a machine but within a month you should have also received copies of *Electronic Arts Deluxe Paint V.400* and *Digital's Wordworth 2 AGA*. These two packages aren't just stocking files either - both *DPaint* and *Wordworth* are two of the best examples of their genre available for the Amiga.

Deluxe Paint is probably the most famous Amiga program ever written (except one by *Pixelblaster*, that is). Originally released little more than a couple of months after the release of the very first Amiga, the A1000, *Deluxe Paint* has remained the number one Amiga painting program ever since. The version of *Deluxe Paint* bundled with your Amiga's a legacy from the original *DPaint*, however - *Deluxe IV* has been specifically written to handle the advanced graphics modes offered by the A1200. If, in result, you can paint pictures that take full advantage of the amazing 16.7 million colour palette at your disposal using any one of the many saved modes on offer. *DPaint* isn't just great for producing static pictures either - believe it or not, but you've seen the proud owner of one of the best Amiga animation programs, just?

Wordworth is no poor relation either. Everyone needs a word processor, whether you want to write a love letter to your beloved, a 500-page treatise to your bank manager or even a Nobel winning novel. *Wordworth* is more than good enough for the job. *Wordworth* isn't just a simple word processor either - thanks to the Amiga's powerful graphics capabilities, *Wordworth* will even allow you to pull pictures into your documents for the truly professional finish. Just like *DPaint*, the version of *Wordworth* bundled with your Amiga has been specifically written to handle the capabilities of the A1200. AGA this is, so you can display pictures on the screen with up to 256 colours!

Over the next two pages we'll be taking a good long look at these two packages and how to get started with them. By the time you reach the end of our guide, you should be well on your way to mastering these two packages.

SPRINT IV AGA

Deluxe Paint IV AGA is a powerful paint program that will allow you to create fantastic artwork on your Amiga's screen without ever having to get your fingers sticky with the more conventional artist's tools. Instead of using a paint brush and pot of paint, *Deluxe Paint* transforms your Amiga's mouse into an artistic tool that can be used to dash electronic pixels onto your Amiga's screen. What's more, *DPaint* gives you a far more colours to work with - up to 16,000 from a massive palette of over 16.7 million shades!

Like most paint programs, *DPaint* provides you with a set of drawing tools, each of which produce a specific result - there's a tool for drawing lines, another for drawing boxes and so on. This may sound rather tedious, but believe me, *DPaint* can be used to create just about any type of artwork ranging from a simple stick man to a full-blown novel!

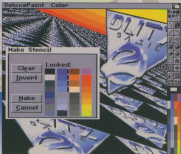
When you first enter the *DPaint* box, the disk that is within will not work directly on your Amiga. It will be necessary to copy your original disk. *DPaint* must first be installed onto your own hard disk if you're lucky enough to own one! or onto a separate set of disks. Don't worry, this isn't as painful as it sounds. Simply insert your *DPaint* "install" disk into your A1200's internal drive, double click on its disk icon and then head up either the install floppy or install-HD programs depending upon on the type of storage medium you'd like *DPaint* installed onto. The install utility

that will pop up onto the screen will take you through the process of installing *DPaint* as quickly as possible.

Once *DPaint* has been installed, you should have a little concerning the *DPaint* program icon in a trapezoid with a pencil brush through it. Double click on this and after a few moments the *DPaint* screen mode installer will appear. This requires allows you to set which screen mode you'd like *DPaint* to work in - if you boot down through the list, you should see a bewildering number of choices, each of which has its own particular capabilities. For the moment, however, select the 'PAL (Low Res)' mode. Below this you'll find another gadget labelled 'Palette Bar' with the number '256' by its side. A bit surprisingly, this gadget allows you to select how many colours *DPaint* should use - 256 is fine for our purposes, so click on the 'Use' gadget and the *DPaint* screen should appear.

Running down the right hand side of the *DPaint* screen you should see a vertical gadget and below it a selection of 16 colours. These gadgets are the *DPaint* tools which when you click on them give you access to *DPaint*'s powerful drawing functions. Below this is the colour selector which - not surprisingly - allows you to pick a colour which will be used when you draw onto your electronic canvas. Having selected a colour, you'll see another gadget labelled 'x' with two lines and arrows either side of it - click on one of these arrows and more more colours will be generated!

Using the blocks in the *DPaint* toolbar couldn't be simpler - simply click on the tool that you want



Adding to the features of your Amiga's free software have been a copy of *Deluxe Paint* and *Wordworth*, two of the Amiga's most powerful paint programs yet.



Usually all of Amiga's most powerful icons can be accessed from the icons of disks that can show the right hand side of the screen. Here's a quick rundown of what each top icon:

with the left mouse button, pick the colour that you need to use from the colour palette and then click the mouse pointer onto the screen (the blank area of the screen) and then, whilst holding down the left mouse button, drag drawing. As desired, the icon may be put to give you a program (the Amiga's desktop menu), put to a file (think of this as being a document) and very interesting program indeed!

WORDWORTH 3

Probably one of the most interestingly useful programs you could not want to own has to be a word processor. This word processor is a sophisticated program that will allow you to prepare documents on your Amiga screen without having to write for the 'guy' every time you make a mistake. It is in essence the most different of programs starting with a word processor and being on top of a typewriter - if you make a mistake or just like to change the

face of your document, you're free to make the document almost as much as you like without having to start again from scratch. This doesn't have to be a costly option either on a CU AMP500. It's really as fast as word processing on a PC and even if you only need to make a quick note to your friend in Spanish or even the Book Manager you'll find using a word processor a lot less hassle than having to retype your old MS-DOS letters!

Up until now, Amiga users were forced to actually pay for a word processor if they wanted to have access to all the word-processing power, but Commodore have very kindly decided to bundle one of the best Amiga word processors with your Amiga as standard - Wordworth 3.00A. Wordworth 3 isn't like the word processors you're probably used to on your brand PC. Wordworth 3 is far less than described as a word processor. This is, it also provides you with many functions previously only found in expensive desktop publishing programs. What this basically means is that Wordworth provides you with far more flexibility over the layout of your documents - you can even include pictures if you wish!

Anyway, enough of the waffle - let's get stuck into the program. When your Wordworth program first starts up on the 'Amiga icon and the Amiga will automatically prompt you to open your Wordworth Printer from disk. Simply mouse, but there's a very good reason for this - the Wordworth program is actually on the disk! Simply follow the on-screen prompts and after a while the Wordworth screen should pop up onto the screen. This also requires a lot of disk swapping if you only have a single drive, so be patient.

The Wordworth screen is split into two sections: the main page and an icon area that runs down the left hand side of the screen. The page area is different from a real page that you'd find in a newspaper. Simply type your text into the Amiga using the keyboard and the characters that you type appear almost instantaneously on the screen! You'll



Wordworth isn't just a straight word processor. Providing you'll support the various fonts and screen backgrounds, Wordworth is closer to a desktop publisher!

move a little flashing line that moves across the screen as you type. This is the cursor which makes letters on the page the text that you type will be entered. You can move this cursor around your document using either the arrow keys on your Amiga's keyboard or simply by clicking the mouse pointer where you'd like the cursor moved to. Note that if you've only defined a single line of text, the cursor can't be moved anywhere that's other than on this line. You can also delete text too by pressing the backspace key on your Amiga's keyboard. Note how the characters immediately to the left of the cursor are deleted.

Whole lines and even paragraphs of text can be cut, copied and pasted down elsewhere on the page simply by marking the block of text that you wish to manipulate. Marking text is very simple indeed: move the mouse pointer to the start of the block and then hold down the left mouse button and drag the mouse away from its starting position. If all went well, the text between the start position and the cursor mouse position should be highlighted. If you now press the 'Backspace' key again, the block of text that you've highlighted will be deleted. Good job!


Wordworth is a very powerful program and as a result it's impossible for us to cover every feature of this program in detail. As was the case with Office, the best way to get to grips with it is to experiment. Don't worry, anything you do in Wordworth will have no effect on your Amiga so feel free to explore freely!

Wordworth® 3.00-02 Digital International 0:00 PM

Document: WWSample

Wordworth®

William Wordsworth was born on the 7th April 1770 at Cockermouth in Cumberland England. He grew up in the beautiful lake district that was later to provide inspiration for much of his poetry and philosophy. His early life had was marked by the tragedy that was to accompany him throughout his. When he was just eight years old his mother died, followed by his father five years later. From a young age, he was very aware that the way in which he lived would have a profound influence upon his creativity. He later put many of his experiences into the largely autobiographical poem, The Prelude, recognizing that this was an unconventional method of writing poetry: "A thing unprecedented in literary history that a man should talk so much about himself." Strong contemporary opinion held that to use poetry to describe normal, everyday occurrences was to demean the form.



William Wordsworth

I was doted lovingly as a child
That floats on high o'er vales and hills,
Where all at once I saw a crowd,

Need a word processor? Then look no further than Wordworth 3.00A. The easiest word processor available with the Amiga 500 is the flexible, dynamic pack.

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International	Workbench 2.1+	Yes all Amigas
PC 720K	Workbench 2.1+	Yes all Amigas
PC 1.44	Workbench 2.1+	Yes all Amigas
DCF5	Workbench 3.0	Yes all Amigas
SOFTWARE		
HD Backup	At Extra cost	Yes Software inc.
Track Display	No	Yes
Fast Copy	No	Yes
COPIER HARDWARE		
Synchro Express	At extra cost	internal emulation
emulation	At extra cost	internal emulation
Blitz	At extra cost	internal emulation
Cyclone	At extra cost	internal emulation
Cyclone T2	At extra cost	internal emulation

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palette Preferences

EXPANDING YOUR AMIGA

String on your desk is probably the most powerful low-cost home-computer ever to grace the streets of your local computer shop. Your Amiga 1200 is capable of handling just about any computing task you care to throw at it. Whether you're in word processing, music, CAD, DTP, video or you just enjoy tinkering with software, you'll find the Amiga 1200 more than ready enough for the job. Having beneath that beautifully crafted plastic casing a cornucopia of the most advanced hardware on the side of a low-Megabyte computer (a very expensive piece of kit).

Backing up all this silicon wizardry are a whole host of add-ons that can extend the capabilities of your Amiga 1200 immeasurably. Some simply enhance the A1200's capabilities but others add whole new areas of use for you to explore. Over the next two pages you'll find a fairly detailed breakdown of the sort of kit available for your computer. If you want to find out more about any of the types of product mentioned, don't forget to leave your eyes peeled for CDS AMIGA every month.

MONITORS

Unless you've upgraded from an older model of Amiga, chances are that you'll be plugging your A1200 into a standard domestic television via the RF connector on the back of your machine.

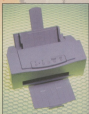
While your TV will be good enough for playing games, you may find it a bit something of an eyesore when it is used to see your Amiga for other more serious applications. Even Windows

The basic Amiga A1200 is a very powerful machine but you can increase its capabilities still further with a range of low-cost add-ons. Here's a breakdown of some of the options available.

2, the word processor bundled with the A1200, is a lot of an eye-strain when used on a television.

A much better bet is to treat yourself to a proper RGB monitor, a video display designed specifically for handling the vibrant colours from your Amiga. Not only will a monitor give you a much better picture quality, but it'll also save you the heartache of having to angle your Amiga everytime someone in your household wants to watch *Playboys* on the TV halfway through the second screen of *Alan Smithee*. Which monitor you choose depends entirely upon how serious your computing needs really are. If you just want a big standard RGB monitor for word processing, tinkering with software and general use, then either Commodore's 1084 or Philips CM9111 will do nicely. These can be picked up for around £200.

At the opposite end of the scale is the "multisync" monitor, a type of monitor that can handle higher frequency signals than a standard RGB monitor. Once again, the picture quality is so much better but, best of all, you can take advantage of the DCL screen modes offered by the A1200 that give flicker free displays. Some of the best (and cheapest) multisynds available are Commodore's own 1740 and 1741 monitors (£179 and £199 respectively).



PRINTERS

Probably the most popular add-on to the humble personal device that will allow you to transfer the text and graphics you see on your Amiga's screen permanently onto paper. Printers come in a number of different flavours: 8 and 24 pin dot matrix, inkjet and laser printers being the four most popular types. Probably the most popular of these is the dot matrix, a type of printer that works by stamping a matrix of dots onto paper using a print head containing a vertical array of fine wires (or pins) as they should be called. These pins strike an inked ribbon that lies between the print head and the paper, resulting in a fine pattern of dots that form the characters you see on the page.

Dot matrix printers come in two different flavours: 9 and 24 pin. The only difference between these two types of dot matrix is the number of pins in the print head. A 9-pin dot matrix has 9 pins and a 24-pin has... well, 24 more pins to make it eat for yourself (grrr). The matrix





Amiga external floppy drives are plentiful and reasonably cheap. Most suppliers stock a range of drives.

The 10 groups let you add extra capacity via 5 1/4-inch floppy disks. The more you add, the more you'll be able to do on all fronts.

in the large number of competitors. There is one, however, a new breed of disk drive has raised its head — the high density drive. Whereas a standard Amiga drive can pack 800K of data onto a single disk, these new drives can pack double that amount onto a single disk. Special 'high density' disks are required, however, which can work out rather expensive. But the drive manufacturer can charge you as little as £120 for a high density drive as opposed to an average of around £200 for a standard Amiga drive.

HARD DISKS

The Amiga's disk drives are fast enough for most people's needs, but if you want the ultimate in storage devices, then you need a hard disk. These special 5 1/4-inch drives can store your programs and data around ten times faster than a disk drive. For the price, you'll get a lot more disk space. Even a fairly basic hard drive can handle up to 40MB and larger models can handle up to 800MB (that's the equivalent of over 340 disks!). Unlike a disk drive, however, hard disks use what are known as 'fixed data'. That is, the magnetic disk that your data is stored on is sealed inside a metal case.

Adding a hard drive to your Amiga 1200 doesn't get easier thanks to the inclusion of an IDE hard disk interface which is built into the A1200 as standard. Because this interface is an integral part of the Amiga's circuitry, however, fitting a hard drive also requires the Amiga to be opened up and so it should only be performed by a Commodore-approved service engineer — if you attempt to fit the drive yourself, you could end up not only damaging your machine, but you'll also void your warranty! Obviously, however, a hard drive really does make a difference — programs load faster and you no longer have to wait about swapping disks.



Hard drives can be bought from — and indeed fitted to — a large number of shops and mail order companies. A basic 40MB drive will set you back around £150 whereas a 200MB drive will cost around £280.

RAM EXPANSIONS

If you've upgraded to an Amiga from the days of the old 640K memory of old, 2MB may seem like a small lot of RAM. Sure, it's more than enough for most games, but even this modest amount of RAM may not be enough if you still use Amiga extensively. Thankfully it is possible to increase the amount of memory inside your Amiga to a maximum of 12MB using any one of a large number of RAM expansions now available for the A1200.

All 2MB RAM expansions primarily come in two different flavours — PCMCIA expansions and in-board expansions. The PCMCIA expansion was the first type of expansion to be released for the A1200 but to the fact that this can also be used on Commodore's earlier Amiga models, the A600, PCMCIA 'cards' come in two different sizes — 2MB and 4MB — and they connect to the machine via the PCMCIA slot on the left-hand side of your Amiga. PCMCIA expansions aren't really an ideal choice, however — because the A1200 is a true 32-bit machine, PCMCIA expansions can slow the

printer can be simpler simply because they offer very high quality results at a very cheap price. An average 7-pin can be picked up for as little as £100 these days. The only disadvantage of the 9-pin version is the amount of noise that they make because the pins flexibly vibrate like a piano. This can be easily done (look).

If you need better quality products and the thought of a noisy 9-pin printer makes you fit a cold, then you may want to consider an laser printer like the Canon B-jet (around £250). Laser printers can make extremely high quality marks, printer speeds of striking the page using laser jets. In other words to be precisely copying very minute details of the page through the paper to the print head. The great thing about lasers is that print quality, often resulting from the laser printer.

Finally, we have the laser printer, probably the ultimate in home printer technology. Generally as popular as laser, lasers don't actually burn the text or graphics onto the page, instead, they work by essentially changing the page which is then passed through a laser light which produces a high resolution image of the page as charged (the laser particles only stick to those areas of the page). Laser are nowhere near as expensive as they used to be, a typically well-equipped laser built to the level of a 1200 can be picked up for as little as £1200. For those purchasing one, laser printer is the only choice.

DISK DRIVES

All Amiga comes equipped with at least one floppy drive which is built into the machine. But you may want to get a few more copies than if you use programs that come to more than one disk. Adding a second drive to your machine will significantly enhance the Amiga's disk drive capabilities allowing you to work with one disk without having to remove the Windows disk except if you enter a new command. The Amiga supports a maximum of four external disk drives, one of which is already fitted to your Amiga, although the others you'll need to make use of are not available until you have a second drive.

Buying a second disk drive really comes down to a question of price. Most disk drives are pretty much the same and so to confirm that you've got one that offers anything that can't already be found



A typical laser drive expansion. Such devices are generic and will work on any machine providing you have the right interface.

Palette Preferences

machine down—due to the fact that they use 16-bit RAM chips, they will last!

A much better bet is the popular expansion that has everything you need to use Amiga in the "broader" expansion slot on the outside of your machine. A great thing about these expansions is that they can only increase the amount of RAM inside your machine, but they also double the AI 286's speed (so better expansion also offers protection for a healthy Windows) which is a special thing designed in hardware mathematics in a fraction of the time the Amiga's own Amiga made through numbers. Unless you use your Amiga for file copying, however, there's little gain in buying a multi-co-processor.

GENLOCKS

Possibly one of the most exciting areas of computing that you can get involved in is dealing video, an application in which the Amiga excels. If you've ever watched *SeaQuest*, *The Great Show* or *Robyn 3* then you would have already seen what the Amiga is capable of when connected up to the equipment in a television studio. One of the most important devices in the desktop video's primary to the genlock, an impressive device that will allow you to mix the output from your Amiga with a live video signal from a domestic video recorder or camcorder.

A genlock is a lot more than just a video mixer. By removing the background colour from the Amiga video image, the image can be superimposed on top of the live video signal. This can be used to great effect when adding video to your home movies. Getting started in desktop video needn't be expensive either, the *Look Marketing* (TEL: 0800 880 82) *ProGen* genlock, for example, can be picked up for as little as £68. Moving further up the scale, more powerful genlocks such as the *ProGen Pro*, *SeaQuest Plus* and *QVP 32-Link* can be picked up from as little as £150. These more powerful genlocks allow you to fade between video signals using their integral controls.

SOUND SAMPLERS

If you're interested in the more musical side of the Amiga, then you've got to get other hands on a sound sampler. For the uninitiated, a sound sampler is a wonderful little device that can store an audio signal from a CD player or hi-fi tape the digital information that your Amiga understands. Plug a microphone into the sound sampler and you can even "sample" your own voice into your Amiga. (This inside the Amiga, the sound sampler can be played back by your Amiga's powerful sound chip. What's more, you can even manipulate the sound — it can be speeded up (thereby increasing its pitch), slowed down, echoes can be cut out and passed down and you can even apply all manner of



special effects to the sample such as a phaser effect, echo and so on. Sound samplers can be particularly useful, however, when used in conjunction with a sound Tracker program — a program written specifically for composing music using sampled samples. If there's an instrument sound that you particularly like to use in your music, you can simply sample it into your Amiga and use it freely within your music!

Sound samplers are surprisingly cheap too. A fairly powerful sound sampler such as *Wave Dimensions* (Tel: 099 690 181) *Trillian* *Technosound Turbo* can be picked up for just £38 and a *Sound Tracker* program can be purchased from the Amiga Public Domain for as little as just £1! So you can see, getting started in Amiga music couldn't be cheaper!

VIDEO DIGITISERS

Finally, we have the video digitiser, a terribly useful device that does the same job for video images as the sound sampler does for audio signals. With a video digitiser attached to the parallel port of your Amiga, you can grab pictures onto your Amiga screen direct from any device capable of producing a Composite video signal — a domestic video recorder or camcorder, for example. If your recorder really leaves a lot to be desired, a video digitiser provides a perfect way of getting your hands on high quality content without having to draw it from scratch.

Video digitisers aren't expensive. Amiga's *VideoAmiga 12*, for example, can grab full colour images with up to 262,000 colours for just £99. Video really does sound like a bargain, but, thanks to its built-in RGB splitter, it can grab full colour images direct from video-cassette too.



If you're serious about video, you'll need a decent quality genlock that won't degrade your pictures. This expensive one has the full and looks pretty fancy too!





Before you can use a window like an icon image, it must first be formatted.

AMIGA HELPLINE

BATTERIES NOT INCLUDED

What should I do if my new Amiga fails to work when I first try to power it up?

It's an unfortunate fact of life that some Amiga that leave the factory will be dead on arrival. If the untestable does happen, check that you have set up your machine correctly. Have all the right leads been plugged into the right sockets? If in doubt, refer to our lessons on setting up your Amiga at the beginning of this magazine. Even if you've done everything exactly as they say, it's always worth double-checking.

If you are still experiencing problems, check the power socket and fuse; you should have a 13 amp fuse in the plug (usually 16A MCB). If you are satisfied that you have everything correct and still there is no sign of life, contact with the shop where you purchased the machine and demand a replacement. On the whole, Amigas are reliable, but there is a small chance that you may have a dud.

If there's still an aspect of the Amiga that is giving you grief, then this selection of commonly asked question and answers may put you on the right track.

DEATH WARRANT

How important is it to pass off my warranty if I fail to do so and I experience problems later, could it still be covered?

After checking that your new Amiga works it is vital to ensure that you leave the warranty — it's the big issue and while slightly murky (IMPORTANT Justice 40, 18 is a good point to off immediately, if you don't do this, Commodore won't honour your warranty).

WARRANTY WORRIES

If my Amiga does go wrong, what sort of cover does the warranty provide?

The standard Commodore warranty lasts for one year from date of purchase and if your machine breaks down within this period then you are entitled to insure maintenance. This means that an engineer is on hand or a local franchised dealer will come out to your house and aim to solve any problems with your machine on the spot. More complex problems may require the engineer to take the machine away although it should be returned to you within a couple of weeks. This may seem like an undesirable amount of time to have to wait, but there's no way around it if's ahead.



You don't have to be a technician to clear the system from your Amiga, but you may find it useful if you use your Amiga for anything more than playing games.



The Amiga's Disk Explorer gives you direct control of performing disk operations.

Select the disk's

name and then select the

'Format' option from the 'Workbench'

'Tools' pull-down menu. After a quick disk format,

your Amiga will also bring up the 'Format'

message which contains a whole host of options.

For the moment, however, ignore all the options

and click on the 'Format' option. Be careful not to

format your Workbench disk, however - if you do,

it will completely wipe all the data from the disk.

Once you've done this, the following

procedure will now start - you should see a small

graph that shows how much of the disk has still to

be formatted. Once this bar has reached the end,

the disk will be formatted and ready for use.

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SCREENING PROCESSES

like it takes to keep a monitor to be able to see the screen changes.

Also, the Amiga has a built-in compression module which allows you to plug it directly into your TV set. The more you use your computer, however, the more you will start to realize that a monitor would be a nice addition to your set-up. If you intend to use a hard processor or graphics package then you will find a monitor an essential item as the low-resolution nature of a television set can cause eye strain.

MOUSE MATTERS

What's a mouse, you wonder, and how do you use it?

The mouse is an essential part of your Amiga system. Basically it allows you to move any given screen 'border' around the screen which you like to select, you also use mouse controls and icons. Instead of you using any one key together with a mouse, there are now many mouse operations that you need to be aware of. Click: Press the pointer over an icon on the screen and press the left mouse button once to select it. This is called 'clicking' or 'selecting' an icon. If you want the icon should be highlighted (coloured) normally. Double click: Using the same method as a click (press the left mouse button twice in quick succession). This will cause the operation associated with that icon to be performed. F2/F3 systems: Press the mouse button once and hold down the double clicking or click or double clicking the double clicking or double clicking. Selecting a menu: Option is slightly more complex. Hold down the right hand mouse button and the Workbench will should display the names of any available menus. To display the contents of a menu, press down the right button and move the pointer over a menu heading and the menu associated with that heading will be visible. Drag: Press the mouse button down, then just move the pointer down the list and release the right button when the option you want is highlighted. Single click:

A program like this illustrates what mouse actions will do when you're moving them around the screen.

HATED MOUSE

Now this I've bought my new Amiga, I'd like to keep it in top condition. I've heard that the Amiga's mouse can become rather unreliable after a while and so it is worth buying a mouse mat.

Yes, a mouse mat is definitely worth purchasing as it provides a smooth, flat and clean surface which keeps the mouse free from dirt and fluff which can clog up the rollers inside. This is an inexpensive accessory which is worth its weight in gold - expect to pay no more than £10 for a quality mat.

FORMATTING DISKS

What is meant by the term 'formatting a disk'? Why do I have to format a disk before it can be used? Really, how do I format a disk?

The way you select one of the disks and the system menu which type of machine you use them on, but this is only true from a very general view point. In order for your Amiga to be able to use a new diskette, it must be prepared so that all the tracks and sectors on the disk are in the correct state for the system. This process is called 'formatting a diskette' and normally it's very easy to do from the Workbench.

To format a disk, load up Workbench and once it has loaded, remove the Workbench disk and insert the disk you wish to format. Although an icon for the disk will appear, it will not have previously been formatted unless you have bought it like this already contains Amiga files. If the disk is standard (5.25 in), then it has not been previously formatted.

Format Disk - option from the 'Workbench' 'Tools' pull-down menu. After a quick disk format, your Amiga will also bring up the 'Format' message which contains a whole host of options. For the moment, however, ignore all the options and click on the 'Format' option. Be careful not to format your Workbench disk, however - if you do, it will completely wipe all the data from the disk.

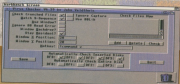
Once you've done this, the following procedure will now start - you should see a small graph that shows how much of the disk has still to be formatted. Once this bar has reached the end, the disk will be formatted and ready for use.

DISK DEFENCE

What can I do to protect my floppy and hard disks from file corruption?

There are a few precautions that you can take to prevent the loss of valuable data from both floppy and hard drives. For starters, it's always a good idea to make backup copies of your most precious programs to save as you can. They're free priced but copy however, so you'll have to be particularly careful with them. Here are a few pointers to help you protect the life of your disks however.

1. Avoid magnetic fields. The magnetic head produced by a magnet can wipe all or part of your disk when the disk comes in close contact with a magnet, so keep magnets well away from your Amiga. Magnets can be found in many household items such as TV speakers and telephones and you must bear this in mind when setting up your computer.
2. When writing on the disk label, don't put too much pressure on the disk, it's always best to use a felt tip pen or ballpoint pen when the label is new.



OK

it stuck to the disk. If you press too hard, you could score the program. And inside the casing, 3. Keep your disk in a clear environment. Cigarette smoke is very harmful to disks as it opens a residue which can cause serious problems. Not only that, but smoking a pipe bad for you anyway, so your Amiga could survive only you but the disk!

4. Avoid liquids. The beverages have been the bane of many a disk, and so you should try to keep them away from both your disks and your Amiga. Spilling coffee on a disk will damage the disk, but you could lose a \$200 worth of music and recordings if that occurs your Amiga's missing!

5. Keep your disks at a moderate temperature at the heat and cold will not do them any good at all. All electronic equipment can be damaged by rapid changes in temperatures, so try to keep your Amiga in a room that is consistently at a stable temperature.

6. Never open a disk, especially hard disks! We all like to know how things work - after all, it's what makes us called an inventor! However, opening a disk (especially a hard disk) will render it completely useless. If you want to know how your Amiga and peripherals like hard disks work, read *CU AMIGA*, we'll guide you hardware to parts if it steps you have turned your machine!

HALF SHELL READ

I have heard the term "Shell". What is a shell and what does it do? In a nutshell (if you'll pardon the pun), the shell is an alternative to the Workbench that allows you to enter commands on the keyboard just like computers of old. The Shell provides you with direct access to AmigaDOS and to many commands.

For example, if you wanted to display the

contents of a disk from the Workbench, you could double click on the disk's icon and a window would appear containing the icons for the files and directories on that disk. If you want to see Shell, however, you would simply type "Dir" and the files would be displayed as a list within the Shell. Many readers believe that the Shell gives you far greater control over your Amiga operations.

INFECTION DETECTION

What are viruses and how can I protect myself against them?

Viruses are programs written by computer "mad" "hackers" that are designed to duplicate themselves without the user's knowledge. They can spread from disk to disk, file to file, and will often corrupt or wipe out a disk without notice.

To protect yourself from viruses, try to keep all of your disks write protected at all times by covering the small notch on the bottom left hand corner of a disk. Better still, get your hands on a device virus killer such as Richard Hedder's excellent Virus Cleaner 1.04. Virus Killers are readily available from a number of Public Domain libraries for less than the price of a disk.

GRAPHIC DEPICTION

What is a grid and what does the term "backdrop" mean?

The best way to explain what a grid is to imagine your screen as nothing more than an enormous sheet of graph paper that is built up of lots of little squares grouped together as a massive grid. Each individual square on the graph paper could be described as a pixel. Each pixel is capable of displaying a single colour and therefore what a

whole series of pixels are coloured, a picture is formed.

The term resolution refers to the number of squares or pixels on the screen along the vertical and horizontal axis. As a general rule, the more pixels, the higher the resolution and therefore the higher the definition of your picture. The Amiga 4120's 640x480 display can display a maximum of 1,814 pixels across and 800 pixels high although this will vary according to the selected screen mode. The standard Workbench display, for example, is only 640 pixels across and 350 pixels deep. This is called Medium Resolution.

MUSICAL MISDEMEANOUR

I have heard that the Amiga is no good for musical purposes so it does not have a MIDI port. Is this true?

Absolutely not! There are many MIDI (Musical Instrument Digital Interface) adapters available for the Amiga and it is rapidly becoming widely used in a number of top studios. With a MIDI interface connected to your Amiga, you can use your machine to control whole banks of synthesizers using a variety of different software packages. One of the best packages for the Amiga is Bare & Pipes the v3.1 which is just a fraction of a "centimeter". Also available for the Amiga are a massive range of sequencers and libraries.

You don't have to own MIDI equipment to create music on your Amiga, however. Thanks to the Amiga's powerful sound chip, you can create music using your Amiga's own 8-bit based sound capabilities. All you need is a program like Deluxe Music 3.0 or even a PD sound tracker like the PD Tracker.

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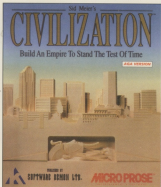
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